

## What is Claimed:

- 1                   1.       A manifold for receiving fluid tubes in a bulk compounder, said  
2 manifold comprising:  
3                   a plurality of inlets, each inlet defining an opening to a respective fluid  
4 passageway, each said passageway containing a check-valve;  
5                   an outlet in fluid communication with said fluid passageways; and  
6                   an inlet port which is coaxial with said outlet, said coaxial inlet port  
7 containing a check-valve.
- 1                   2.       The manifold of claim 1 further comprising a central chamber in  
2 fluid communication with each said fluid passageway for fluidly connecting said fluid  
3 passageways to said outlet.
- 1                   3.       The manifold of claim 1 wherein said outlet comprises an outlet  
2 port having a self-sealing membrane adapted to be penetrated by a cannula.
- 1                   4.       The manifold of claim 1 wherein said outlet comprises an outlet  
2 port having a self-sealing membrane adapted to be penetrated by a cannula, and  
3                   wherein said coaxial inlet port check-valve is adapted to have a cracking  
4 pressure greater than the vacuum pressure within said outlet port when the cannula is  
5 pulled from said self-sealing membrane.
- 1                   5.       The manifold of claim 4 wherein all said check-valves are adapted  
2 to have a cracking pressure greater than the vacuum pressure within said outlet port when  
3 the cannula is pulled from said self-sealing membrane.
- 1                   6.       The manifold of claim 1 wherein said plurality of inlets are  
2 disposed linearly with respect to each other.
- 1                   7.       A manifold set for receiving fluid tubes in a bulk compounder  
2 comprising:

3                   a manifold, said manifold comprising:  
4                   a plurality of inlets, each inlet defining an opening to a respective  
5                   fluid passageway, each said passageway containing a  
6                   check-valve;  
7                   an outlet in fluid communication with said fluid passageways; and  
8                   an inlet port which is coaxial with said outlet, said coaxial inlet  
9                   port containing a check-valve;  
10                  and  
11                  a cannula having at least one male blunt tip for insertion into said self-  
12                  sealing membrane.

1                  8.       The manifold set of claim 7 wherein said cannula has a female port  
2                  at said male blunt tip end for receiving an additional male tip.

1                  9.       A manifold for receiving fluid tubes in a bulk compounder, said  
2                  manifold comprising:

3                   a plurality of inlets, each inlet defining an opening to a respective fluid  
4                   passageway, each said passageway containing a check-valve, said plurality of inlets  
5                   disposed radially from a center inlet; and

6                   an outlet in fluid communication with all of said fluid passageways and  
7                   said center inlet;

8                   said outlet and said center inlet having the same central axis.

1                  10.       The manifold of claim 9 wherein said center inlet defines a center  
2                  passageway containing a check-valve.

1                  11.       A tube set for use in bulk compounding, said tube set comprising:  
2                   a plurality of pump sections, each said pump section having a distal  
3                  end;

4 a plurality of tubes, each said tube of said plurality having a distal  
5 end and proximal end, each said proximal end of each tube of said plurality attached to  
6 said distal end of a respective pump section, and each said distal end of each tube of said  
7 plurality attached to a manifold, said manifold comprising:

8 a plurality of inlets, each inlet defining an opening to a  
9 respective fluid passageway, each said passageway  
10 containing a check-valve;

11 an outlet in fluid communication with said fluid  
12 passageways; and

13 an inlet port which is coaxial with said outlet, said coaxial  
14 inlet port containing a check-valve.

1 12. The tube set of claim 11 wherein said plurality is six.

1 13. The tube set of claim 11 wherein said plurality is nine.

1 14. A tube set for use in bulk compounding, said tube set comprising:

2 a plurality of pump sections, each said pump section having a distal  
3 end and a proximal end;

4 a first plurality of tubes, each said tube of said first plurality  
5 attached to said proximal end of a respective pump section;

6 a second plurality of tubes, each said tube of said second plurality  
7 having a distal end and proximal end, each said proximal end of each tube of said second  
8 plurality attached to said distal end of a respective pump section, and said distal end of  
9 each tube of said second plurality attached to a manifold, said manifold comprising:

10 a plurality of inlets, each inlet defining an opening to a  
11 respective fluid passageway, each said passageway  
12 containing a check-valve;

13                               an outlet in fluid communication with said fluid  
14                               passageways; and  
15                               an inlet port which is coaxial with said outlet, said coaxial  
16                               inlet port containing a check-valve.

1                           15.     The tube set of claim 14 wherein said first and second plurality are  
2     both six.

1                           16.     The tube set of claim 14 wherein said first and second plurality are  
2     both nine.

1                           17.     A method of minimizing error in the filling of a product bag in a  
2     bulk compounding system, said method comprising the steps of:

3                               providing a manifold with a minimum common volume to minimize  
4     residual holding of any one ingredient solution; and

5                               passing individual ingredient solutions through the manifold to fill a  
6     product bag;

7                               whereby error is reduced because of the minimization of the manifold  
8     common volume step.

1                           18.     A cannula for attaching two fluid channels, said cannula  
2     comprising:

3                               at least one male blunt tip end for insertion into a first fluid source; and

4                               a female port formed within said male blunt tip end to allow connection of  
5     said cannula to a different fluid source wherein said different fluid source has a male end.